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12/84

SITE ASSESSMENT

FOR

AMERICAN CHEMICAL SERVICE
GRIFFITH, INDIANA

Prepared For:

U.S. Environmental Protection Agency
Region V
230 S. Dearborn Street
Chicago, Illinois

CONTRACT NO. 68-95-0017

TAT-05-F-00478

TDD# 5-8411-09

Prepared by:

WESTON-SPER
Technical Assistance Team
Region V

December 1984

1.0 INTRODUCTION

On November 14, 1984, the Technical Assistance Team (TAT) was tasked to assess the American Chemical Service site, located in Griffith (Lake County), Indiana. This report details TAT's findings pursuant to this task and also includes a SPCC inspection performed at this facility.

2.0 SITE HISTORY

American Chemical Services (ACS) is a solvent reclamation and chemical manufacturing facility located at 420 South Colfax, Griffith, Indiana (Figure 1). ACS began operations in May 1955, solely as a solvent recovery firm. Later, the company also began limited chemical manufacturing. Mr. James Tarpo is president of ACS, Messrs. John and James Murphy are the firm's vice presidents.

The ACS solvent recovery process generates still bottom wastes which were originally deposited in a holding lagoon located in the southern portion of the facility. In the 1960s, leaching and/or runoff from the lagoon area reportedly had caused vegetation kills in a marsh immediately to the west of the site. Operation of this lagoon was terminated in 1972 when it was filled in with drums partially full of sludge materials. A portion of this lagoon may have been inundated when the present fire water pond was constructed in November 1973. The fire pond is located at the southwestern corner of the facility and stores water for fire control purposes. The remainder of the lagoon was backfilled, and graveled over.

From 1958 to 1975, ACS operated a small landfill on a piece of property directly south of their plant (Figure 2). Throughout its operation, the landfill was utilized in the disposal of a variety of wastes generated at the ACS plant. Originally, the still bottoms from the aforementioned lagoon were disposed of in this landfill. From 1968 to 1970, ACS operated an incinerator at their facility and wastes from the incinerator were also deposited in the fill during this period. In addition to these wastes, general refuse and an estimated 20,000 to 30,000 drums were deposited in the fill prior to its closure. These drums reportedly were either empty or partially full of unreclaimable wastes. A tank truck partially full of sludge material, was also buried in the fill. ACS reports that leachate problems have been associated with the landfill since the 1960s, but have steadily decreased over the years.

In 1972, ACS discontinued use of its landfill and the site was capped with a reported two to three foot layer of soil.

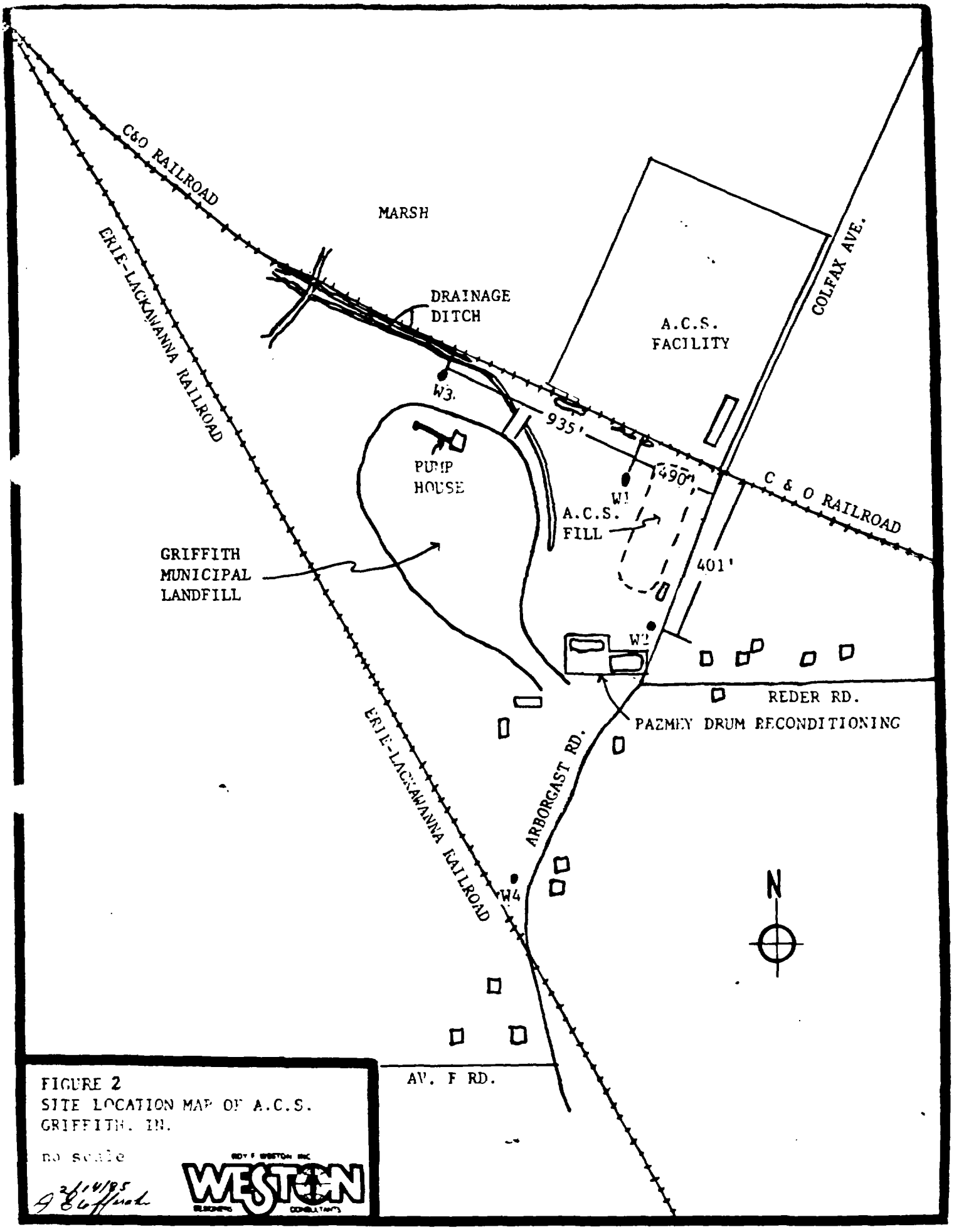


FIGURE 2
SITE LOCATION MAP OF A.C.S.
GRIFFITH, IN.

no scale

2/14/85

WESTON

In 1980, a 31 acre portion of property owned by ACS to the west of the drum fill was sold to the City of Griffith. The city used this property for an expansion of their municipal landfill, which had been operating to the southwest of the ACS property. This transaction reportedly included an approximately six foot wide strip of the west edge of the drum fill.

As previously mentioned, ACS began operation of an incinerator at their plant in 1968. As well as taking still bottom wastes from the on-site lagoon, large quantities of wastes from off-site sources were accepted. Mr. Tarpo has reported a rate of 2 million gallons of waste per year burned in this incinerator until its closure of 1970.

In October 1971, ACS began a swine fat reprocessing operation. Due to its economic liability to the firm, it was terminated in April 1973. In May 1972, a production line was opened for the manufacturing of a gasoline additive for the American Oil Company, referred to as "Amotone." In early 1974, ACS began manufacturing a plasticizer called "Epoxol" for the Swift Chemical Division. Both materials are currently being manufactured at the facility. Since 1983, "Epoxol" has been produced by ACS for its own distribution. The major operation at the site, however, remains solvent recovery. Aqueous wastes generated at the facility are reported to be disposed of off site.

3.0 PRIOR SITE INVESTIGATIONS

There are no available regulatory inspection reports for the ACS facility on a local, state or federal level prior to 1972. From April 1972 to September 1973, the Indiana State Board of Health, Division of Stream Pollution Control (ISBH-DSPC) conducted regular inspections of the facility. When ACS began Expoxol manufacturing in early 1974, the facility was connected to the Griffith City sewer system and monthly effluent monitoring was begun by the Griffith Department of Public Works.

On May 8 and 9, 1980, personnel from the U.S. Environmental Protection Agency (U.S. EPA), Region V Surveillance and Analysis Division of the Environmental Emergency and Investigative Branch visited the ACS landfill. The purpose of this visit was to investigate the leachate problems associated with the site. A pool of leachate was encountered on the north side of the drum disposal area. A sample of leachate was collected from this pool approximately 15 feet north of the drum fill. A subsurface soil sample was collected near the pool, approximately 10 feet north of the drum fill at depth of 5 feet. A subsurface soil sample was also collected

at a depth of 6.5 feet from an area approximately 36 feet east of the drum disposal area. Finally, a water sample was collected from a drainage ditch feeding a culvert under the C&E rail line, on the southwest corner of the landfill property. The sample locations, as described by U.S. EPA, were not positively identified by the TAT during TAT's site assessment. The analytical results from the samples are summarized in Tables 1 and 2.

Since November 1980, the ACS plant has operated as a hazardous waste facility under the Interim Status Standards of the Resource Conservation and Recovery Act (RCRA). The ISBH routinely inspects the ACS facility under RCRA Interim Authorization. While ACS has not been formally notified, both the ISBH and U.S. EPA contend that a fire water pond, located in the southwest corner of the site, is a surface impoundment, because it collects drainage from potential spill areas. As such, this pond would be subject to the ground water monitoring requirements of Subpart F of the Interim Status Standards. ACS, however, claims this is not a surface impoundment, rather the pond holds only water for fire control purposes. It is not known what regulatory position either U.S. EPA or ISBH is presently taking regarding the RCRA requirements for the landfill or lagoon.

In 1981, several private water supply wells near the facility were sampled by the ISBH. These samples were subsequently analyzed for a variety of inorganic parameters, the results of which are presented in Table 3. This sample collection failed to yield any conclusive results regarding the threat of contamination from the ACS facility or other nearby potential contaminant sources.

In July of 1982, the U.S. EPA Field Investigation Team (FIT) established four monitoring wells on and near the ACS landfill (Figure 2) in order to investigate potential ground water contamination from the site. Ground water flow direction was determined to be towards the northwest. Results of these sample collections are presented in Table 4. Monitoring wells 1, 2 and 3 were found to be contaminated with a variety of organic substances, primarily volatile organic materials.

In the fall of 1984, seven private water supply wells in the immediate vicinity of ACS were sampled by Andy Livovich, a chemist with the Lake County Health Department. A listing of those wells is provided in Table 5. Analysis of these samples by gas chromatography (GC) was subsequently done by Mr. Livovich. Three samples yielded results which Mr. Livovich was not able to adequately interpret. As such, one sample (the O'Neil residence) was sent to the ISBH laboratory for further analysis. Results from the ISBH remain unavailable.

TABLE 1

U.S. EPA SAMPLING RESULTS
SURVEILLANCE AND ANALYSIS DIVISION
ENVIRONMENTAL EMERGENCY AND INVESTIGATIONS BRANCH
AT AMERICAN CHEMICAL SERVICE AND GRIFFITH CITY LANDFILL
MAY 8-9, 1980
(CONCENTRATION UNIT IN PPB)

	Subsurface Soil Sample 1 15' N of ACS Disposal Area	Subsurface Soil Sample 2 36' E of ACS Disposal Area	H_2O Sample 1 from Leachate Pool 10' N of ACS Disposal Area	H_2O Sample 2 from Ditch Running Off Griffith Landfill
Phenol	K1,400	26	K13	350
Isophorone	K700	6.2	K240	K0.7
Naphthalene	12,000	21	29	K0.5
Fluorene	1,000	6.1	K23	K0.8
Diethylphthalate	K7,400	2,500	K240	10
Phenanthrene and anthracene	1,400	26	K42	K1.0
Di-n-butylphthalate	1,100	11	K240	21
Bis(2-ethylhexyl)phthalate	110,000	71	510	63
Butylbenzylphthalate	8,300	117	K240	K0.7
Bis(2-chloroethyl)ether	K400	K5.5	300	28
Dimethylphthalate	K510	K5.5	2,300	K0.7

Data obtained from U.S. EPA analytical results: Data sets EEIB 280 and 281 samples collected American Chemical Service and Griffith Landfill July 3, 1980.

TABLE 2

U.S. EPA SAMPLE RESULTS
RESULTS OF FIELD SAMPLING BY U.S. EPA SURVEILLANCE AND ANALYSIS DIVISION ENVIRONMENTAL EMERGENCY AND INVESTIGATIONS BRANCH AT AMERICAN CHEMICAL SERVICE AND GRIFFITH CITY LANDFILL, MAY 8-9, 1980
(CONCENTRATION UNITS IN PPB)

	Soil Sample 1 (mg/g)	Soil Sample 2 (mg/g)	Water Sample 1 mg/l
Ca	3.8	K0.5	381
Mg	2.8	0.9	74.6
Na	K0.1	K0.1	195
Ag	K0.3	K0.3	11
Al	3700	3400	467
B	K8	K8	1800
Be	0.2	0.2	K1
Ba	11	13	335
Cd	K0.1	K0.2	184
Co	4	2	427
Cr	11	8	254
Cu	13	9	117
Fe	9100	7600	10,400
Mn	370	55	8550
Mo	6	6	57
Ni	9	5	544
Pb	14	15	282
Sn	15	K10	K100
Ti	88	74	13
V	12	11	34
Y	5	7	19
Zn	26	20	2300
Total Hg	.049 mg/kg	.036 mg/kg	.8 ug/l
Total CN	K0.3 mg/kg	K.03 mg/kg	96 ug/l

Data obtained from U.S. EPA analytical results. Data set EEIB samples collected at American Chemical Service and Griffith Landfill June 12, 1980.

TABLE 3

INDIANA STATE BOARD OF HEALTH
1981 LAKE COUNTY GROUND WATER SURVEY RESULTS

Well	Turbidity	pH	$CaCO_3H$	Mo	Fe	Mn	Ca	Mg	Na	K	Cd	SO_4	PO_4	Ba	Cd	Cr(TOT)	Pb	TOC	COD
Jewell Rogers																			
712 E. Elm	0.6	7.8	200	200	.77	.03	50	18	7	.7	<5	18	<.09	.050	<.002	.010	<.010	2	<5
Salisbury Eng																			
1501 E. Main	10	7.6	322	344	1.4	.02	74	34	19	2.3	<5	34	.15	.260	<.002	<.010	<.010	2.2	<5
American Chemical	.5	7.6	312	396	.14	<.02	59	40	63	5.7	5	60	<.09	.080	<.002	<.010	.010	1.0	<5
American Chemical	35	7.3	306	396	3.3	.03	58	39	65	6.8	<5	62	<.09	.110	<.002	.010	<.010	1.0	<5
Silvester Reder	30	7.3	398	312	3.7	.09	94	40	16	1.8	21	100	<.09	.150	<.002	.010	.020	1.5	<5
Kim Evans	20	7.3	474	388	2.6	.02	96	57	22	2.9	<5	130	<.09	.170	<.002	.010	<.010	1.0	<5
1902 Edison Avenue	25	7.3	790	456	3.3	.05	146	104	45	3.9	51	350	<.09	.070	<.002	.030	.010	1.2	<5
Howard Long	25	7.3	628	464	3.2	.03	122	79	26	3.1	<5	210	<.09	.070	<.002	.010	.010	1.5	<5
Glen Slaney																			
553 N. Raymond	5	7.6	224	252	.92	<.02	50	24	14	1.7	<5	5	<.09	.200	<.002	<.010	<.010	1.4	<5
Gose Home																			
1106 S. Broad	30	7.3	668	460	4.8	.03	123	87	37	3.9	<5	280	<.09	.050	<.002	.010	<.010	2.2	<5
Frank Rozick	8	7.6	240	168	1.1	.02	53	26	7	1.4	7	77	<.09	.040	<.002	.010	<.010	1.3	<5
John Price	6	7.7	236	120	.84	.08	54	24	12	.9	17	120	.15	.090	<.002	.010	<.010	1.9	<5
Douglas Waldron	8	7.7	204	224	1.1	<.02	51	18	12	1.2	<5	<5	.2	.130	<.002	.010	<.010	2.2	<5
Citizen's TV	5	7.8	228	316	1.0	<.02	49	26	37	2.5	<5	<5	.2	.190	<.002	.010	<.010	<1.0	<5
Lovin Home	2	7.8	156	168	.64	.02	38	15	6	.9		5	.15	.090	<.002	.010	<.010	<1.0	<5
Ernest Van Byssum																			
1818 E. Elm	10	7.6	228	244	2.9	.04	62	18	11	1.0	<5	<5	.2	.080	<.002	.020	<.010	3.1	<5
Hayworth Home	10	7.4	300	328	2.1	.02	75	27	13	1.4	<5	12	.05	.150	<.002	.010	<.010	4.0	<5
Arthur Hegedus																			
1009 S. Wood	20	7.4	500	392	3.5	.03	96	63	26	3.5	<5	200	<.09	.140	<.002	.010	<.010	2.4	24

TABLE 4

ECOLOGY AND ENVIRONMENT, INC. WELL SAMPLING RESULTS
ECOLOGY AND ENVIRONMENT, INC.
WELL SAMPLING DATA
AMERICAN CHEMICAL SERVICES AND GRIFFITH LANDFILL
GRIFFITH, INDIANA
NOVEMBER 3, 1982

	Well #1 (ppm)	Well #2 (ppm)	Well #3 (ppb)	Well #4
1,2-Transdichloroethylene	-	34	-	-
Ethylbenzene	1.6	10	-	-
Toluene	16	35	-	-
Vinyl chloride	-	680 ppb	-	-
2,4-Dimethylphenol	-	33	-	-
Pentachlorophenol	-	36	-	-
Bis(2-chloroethyl)ether	-	327	-	-
Benzene	24	29	-	-
1,1,1-Trichloroethane	-	1.1	-	-
Chloroethane	-	980	96	-

Data obtained from E&E analytical results for sampling at ACS November 3, 1982.

TABLE 5

PRIVATE WELLS SAMPLED BY LAKE COUNTY HEALTH DEPARTMENT
LAKE COUNTY, INDIANA

Paul Good
1029 Reder Road

Oak Ridge Park
Colfax Avenue

Mike Milsap
1002 Reder Road

Michael Lovich
420 East Avenue H

*Mark Jansen
938 S. Arbogast

*Burge
5013 Calhoun

**O'Neil
1007 Reder Road

Per Andy Livovich 3/11/85 The O'Neil well had a high volatile organic content. Benzene was [illegible] specifically. He said he would [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

* Samples whose results Mr. Livovich could not adequately interpret.
** Sample sent to ISBH laboratory for further analysis.

4.0 SITE ASSESSMENT

On November 29, 1984, TAT members Stofferahn, Matz, and Michols conducted a site assessment of the ACS facility and adjacent landfill. The TAT arrived on site at 1120 and received permission from Mr. Tarpo to enter the landfill property. Later in the afternoon, Mr. Tarpo and Mr. John Murphy were interviewed and provided a brief tour of the facility was made. A second landfill reconnaissance was then made.

Figure 3 indicates the land use surrounding the ACS plant and landfill. Property to the north and west of the plant was undeveloped. A large cattail marsh was located just west of the plant. The City of Griffith's municipal landfill was located southwest of the plant and the ACS fill. The Pazmey Drum Reconditioning was located on the southern border of the ACS fill. Several residences and a few small businesses were located to the south and southeast of the ACS fill. These homes reportedly utilize their own water supply wells. A subdivision was also identified approximately one-half mile northwest of the ACS facility. The water supply for this subdivision reportedly originates from the City of Griffith that utilizes Lake Michigan water purchased from the cities of Hobart and Gary, Indiana.

The old Chesapeake and Ohio rail line abuted the southern edge of the ACS plant, separating the plant from the ACS and municipal landfills. Use of these tracks reportedly ceased in September 1981; the lines had served the ACS facility. Another abandoned rail line, the Erie-Lackawanna, abuted the southwestern edge of the municipal landfill. No tracks remained along the section of the line edging the landfill.

As Figure 3 indicates, surface drainage from the ACS plant and fill flowed to the northwest. Drainage swales along each of the aforementioned rail lines also drained in this direction, except at the intersection of the E&L rail bed and Arborgast Road. From this point, drainage proceeded to the southeast towards Turkey Creek.

A drainage swale was also present on the municipal landfill, running from the eastern edge of the fill around to the northwest, paralleling a ditch along the C&O tracks. Both ditches ran to a marsh west of the municipal landfill. Another ditch, which ran through this marsh, intersected these ditches and connects to the large marsh west of the ACS plant. This area is further detailed under the section of this report regarding the SPCC inspection performed by the TAT.

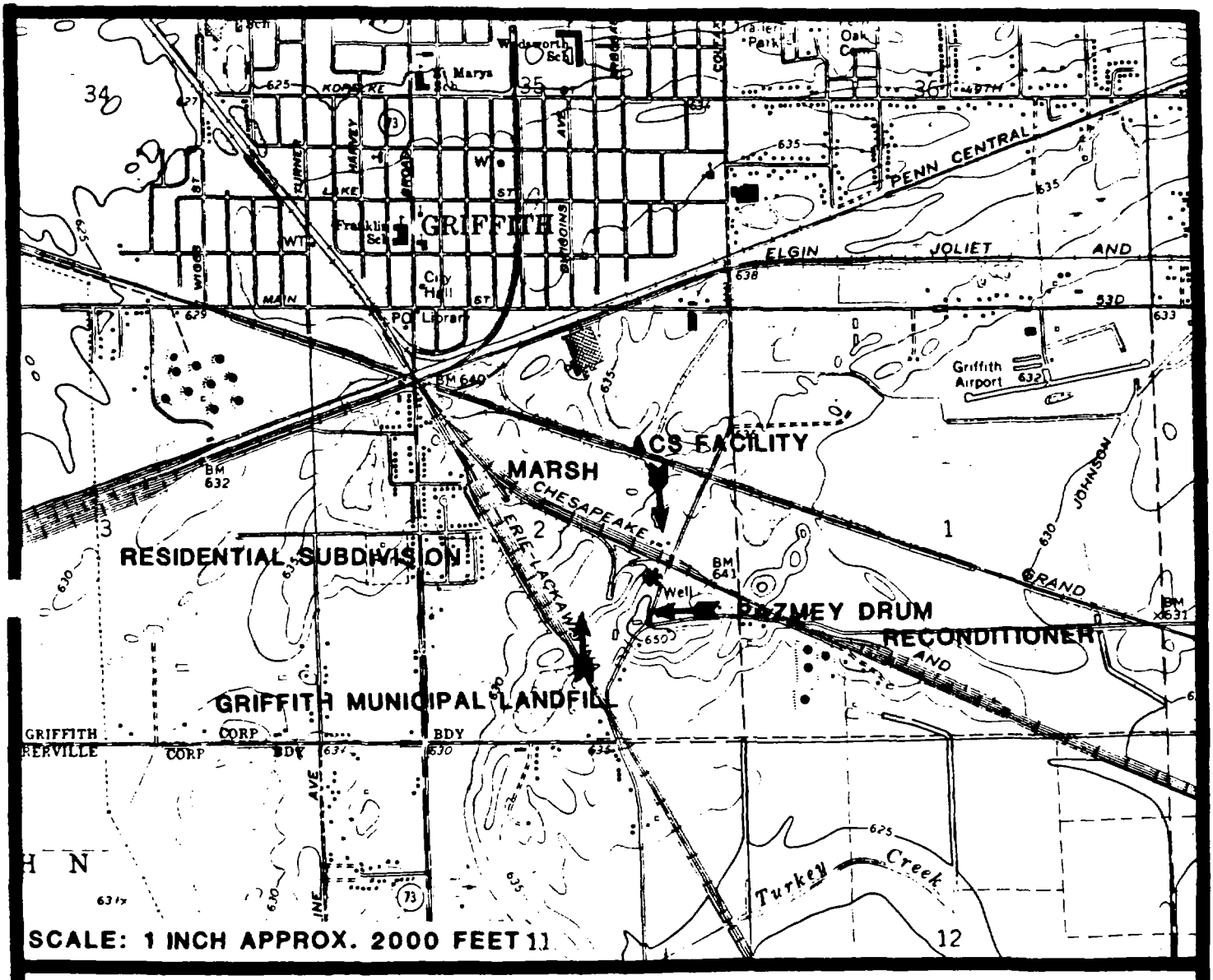


FIGURE 3
LAND USE & DRAINAGE PATTERNS SURROUNDING ACS LANDFILL GRIFFITH, INDIANA

N

* ACS LANDFILL

FROM USGS MAP
HIGHLAND QUADRANGLE INDIANA-LAKE COUNTY

ROY F. WESTON, INC.
WESTON
DESIGNERS CONSULTANTS

It is reported that two aquifers, separated by a clay layer, exist under the site. Boring logs from the monitoring wells indicate deposits of predominantly sand and gravel materials to a depth of approximately 14 to 23 feet, below which a silty clay layer begins. This clay layer has been reported to be 15 to 25 feet thick. Depth to the water table is not known. The on-site monitoring wells are screened in the upper aquifer. The Indiana Department of Natural Resources (IDNR) reports that most of the nearby private wells were screened into the lower aquifer.

The TAT initially conducted a reconnaissance of the fill area, attempting to locate the monitoring wells installed by FIT. The ACS fill was noted to be capped and a good growth of weedy vegetation had been established. No leachate or staining from prior leachate seeps was encountered. A tank with an estimated capacity of 3,000 gallons was found on the eastern portion of the fill. An open port was noted on one side of this tank; a dark sludge-like material was seen under this part of the tank. Organic vapors at the port measured approximately 5 ppm over the ambient levels using a HNU photoionization detector. Monitoring well 1 was also located at this time. The lock on the metal casing of this well could not be opened; however, by lifting the casing cap slightly, an increase of HNU readings was obtained. Readings fluctuated from 5 to 14 ppm over ambient conditions.

After completing this initial reconnaissance, the TAT interviewed Mr. James Tarpo, President, and Mr. John Murphy, Vice President of ACS. Messrs. Tarpo and Murphy indicated that the ACS filling operations never went below grade; as such, the depth of fill is roughly 4 to 6 feet. When asked about a buried tank car in the fill, they replied that that was an old fuel oil truck used for hauling paint solvents that had deteriorated to an inoperable condition. It reportedly contained about one foot of sludge when buried. Messrs. Tarpo and Murphy were then questioned about the plant lagoon. They indicated that the old lagoon was about 100 feet across at its widest point, and about 150 feet long. It was basically an above-grade structure, with the possible exception of one end, as it was reportedly built on a slight slope. The depth of the lagoon was estimated at three feet.

Messrs. Tarpo and Murphy stated that ACS has four on-site wells with casings of about 300 feet each. Submersible pumps are set at levels of 90 to 100 feet below grade. However, a well log, obtained from the Indiana Department of Natural Resources (IDNR) for a well located at the ACS plant (Attachment A), indicates the depth of that well to be 74 feet. These wells supply process and drinking water for the plant. No priority pollutant testing has apparently been done on these wells.

Messrs. Tarpo and Murphy also indicated that the Griffith landfill took hazardous materials in the 1960s. Regarding the drum reconditioning facility south of the ACS fill, this was originally operated by a firm named Kapica. Kapica sold the facility in 1980 to Pazmey. Messrs. Tarpo and Murphy mentioned that Pazmey had been cited by the ISBH for dumping waste water at their site. In regards to their own fill, they indicated that they capped a leachate seep at the north end in 1980. They also indicated that the fill, and apparently, also the lagoon had leachate problems in the 1960s, but these problems have generally subsided over the years. They also stated that these leachate problems had caused considerable vegetation kills in the adjacent marsh, west of the facility. Finally, the TAT mentioned reports of the Griffith landfill pumping leachate off their site. Messrs. Tarpo and Murphy stated that they were unaware of any such activity.

Upon completion of the interview, Messrs. Tarpo and Murphy showed the TAT an area on site which they stated was the location of the covered waste lagoon. The former lagoon was located to the northwest of the process building, at the west end of the site. A slight rise in the land was observed at this location. A tank battery was noted to occupy much of the area that was formerly the lagoon. The fire pond, located due west of the lagoon area, was then inspected. Mr. Tarpo indicated that the water level in the pond was maintained by overflow diversion into the sewer system. Mr. Tarpo also stated that no waste filling west of their pond had occurred.

Messrs. Tarpo and Murphy then toured the ACS fill and nearby area with the TAT, pointing out the location of the monitoring wells. Later, the TAT attempted to open the casing locks on these wells to obtain HNU readings. None of the locks on the wells could be opened, and the casing caps appeared to be rusted shut. The TAT then examined the E&L rail bed along the southwestern edge of the Griffith landfill. No leaching problems were encountered. A similar investigation was made along the C&O rail line north of the landfills. A drainage ditch along the rail line was found to contain clear water; no abnormal HNU readings were obtained, nor was evidence of leaching found. Another drainage ditch, running roughly parallel to the aforementioned ditch, was observed. It appeared to originate in the area between the ACS fill and the current Griffith operations and was interrupted at one point by soil which had apparenty been bulldozed into it. At this point, the water was very dark, odorous, and gas was noted emerging from the sediments. Both ditches were eventually intercepted by another ditch running perpendicular to the C&O tracks, northwest of the Griffith landfill. This ditch connects, by means of a culvert, the mar-

shes located north and south of the C&O tracks. At the confluence of the ditches, the water from the "on-site ditch" was noted to be clear with no discoloration or odor present.

5.0 SPCC INSPECTION

On December 12, 1984, TAT members Michols and Matz conducted a Spill Prevention Countermeasure and Control (SPCC) inspection of the ACS facility, during which time the TAT again met with Messrs. Tarpo and Murphy. A copy of ACS's SPCC plan was presented to the TAT and is included in Attachment B. Mr. Murphy informed the TAT that the crude referred to on the SPCC plan was not crude oil but crude solvent. The SPCC plan contained a listing of the majority of chemicals held at the site, but Mr. Tarpo mentioned that a more detailed description of tank storage and spill prevention existed in the Contingency Plan outlined in their Part B RCRA application submitted by ACS in August of 1982. Mr. Tarpo also stated that ACS does not handle any soluble oils at their facility. The fire water pond on site does collect drainage from potential spill areas on site, but, according to Mr. Tarpo, is equipped with a double underflow separator. As the fire pond discharges to the Griffith sewer system, this separator is intended to prevent the discharge of oil to the sewer.

Messrs. Tarpo and Murphy then conducted a tour of the ACS site with the TAT. The various tank farms on site were pointed out. The facility appeared to be very well maintained. After the completion of the site tour, Messrs. Tarpo and Murphy pointed out the marsh west of the facility, a culvert underneath the C&O tracks, which directs drainage for the marsh. Figure 2 details the drainage pattern in the vicinity of this culvert. No evidence of vegetative stress was observed in the marsh.

6.0 RECOMMENDATIONS

No leachate problems were evident when the TAT conducted its site investigations. The possibility exists that leaching may occur only during the spring, due to the seasonally greater influx of water into the fill. It is recommended that another site inspection be conducted in the spring of the upcoming year to determine if leaching problems do exist.

With the possible exception of the abandoned fuel tank on the landfill, no other conditions were observed which could pose an imminent threat to the public safety via direct contact of wastes. The physical description of material in the tank does not tend to support ACS's contention that this is simply an old fuel oil tank; as such, ACS should be encouraged to

relocate the tank in a secure area until a definitive description and, if necessary, final disposition of the materials contained in the tank can be achieved.

Implementation of a ground water use survey in the immediate area should be considered to determine potential sites for ground water contamination and to obtain an accurate listing of locations and depths of current water supply wells. Based upon the results that were obtained from the analysis of the LCHD chemist's private well water sample, it may be necessary to implement a more extensive ground water sampling plan of local wells in order to accurately assess the area affected by the contaminant plume.

ATTACHMENT A

Indiana Department of Natural Resources Well Log

DEPARTMENT OF NATURAL RESOURCES, STATE OF INDIANA
STATE OFFICE BUILDING
INDIANAPOLIS, INDIANA 46204
Telephone 633-5267 Area Code 317

Water sample collected by Ron Weiss

SBH (17)

WATER WELL RECORD

IWWRS

WELL LOCATION (Fill in completely. Refer to instruction

County in which well was drilled

Driving directions to the well location

NAME OF WELL OWNER and/or BUILDING CONTRACTOR

Well Owner Address

Building Contractor Address

Name of Well Drilling Contractor

Address

Name of Drilling Equipment Operator:

WELL INFORMATION

Depth of well: 74ft Date well was completed:

Diameter of casing or drive pipe: Total Length:

Diameter of liner (if used): Total Length:

Diameter of Screen: Length: Slot Size:

Type of Well: Drilled ☑ Gravel Pack ☐ Driven ☐ Other

Use of Well: For Home ☑ For Industry ☐ For Public Supply ☐ Stock ☐

Method of Drilling: Cable Tools ☐ Rotary ☐ Rev. Rotary ☐ Jet ☑ Bucket Rig ☐

Static water level in completed well (Distance from ground to water level) feet

Bailer Test: Hours Tested Rate g.p.m. Drawdown ft. (Drawdown is the difference between static level and water level at end of test)

Pumping Test: Hours Tested Rate g.p.m. Drawdown ft.

Signature

Date Oct. 9-1971

FOR WELL LOG SPACE USE REVERSE SIDE OF THIS SHEET

WATER WELL LOG

FORMATIONS (Color, type of material, hardness, etc.)	From	To

FOR ADMINISTRATIVE USE ONLY

(Well drilled does not fill out)

Subdivision Name

Lot Number

ATTACHMENT B

SPCC Inspection Sheet & ACS's SPCC Plan

A. SPCC INSPECTION FIELD SHEET

To be completed if SPCC Regulation is applicable to Facility

See Instructions on Reverse

1a Name of Facility:

AMERICAN CHEMICAL SERVICE, INC.

1b Type of Facility

CHEM. RECLAIMER

1c Facility Location:

420 S. Colfax

2a Name of Owner and/or Operator Responsible for Facility:

James Tarpo

2b Telephone # Area Code

(219) 924-4370

2c Mailing Address:

P.O. Box 190, Griffith, Indiana 46319

3 Types of Oil Stored and Capacity of Above-Ground and Buried Storage:

See attached list

4 Is a Certified SPCC Plan Available for Inspection? /X/ Yes / / No

5 Date Inspection

12-12-84

6 Name and Registration # of Certifying Engineer / / Not Available

Robert L. Lippman 4374 Indiana

7 Date SPCC Plan was certified

4-2-75

/ / Not Available

8 Is SPCC Plan Fully Implemented? (Are the items called for in the Plan in the interest of spill prevention actually installed--if observable?) / / Not Applicable.

Yes

8a Has SPCC Been Reviewed in the Past 3 Years? Yes

9 Name of Water Body That Potential Spill Could Enter; or if Unnamed Tributary, Then First Named Water Body Downstream (if known):

Turkey Creek

10 Comments (Include comments by owner/operator--write on back or attach extra sheets if needed):

- Plan was readily available
- Plan lists products in all tanks, mostly non petroleum products
- Some of the tanks and capacities have been changed, ACS said that they will be re-certifying the SPCC plan
- Plan has no documentation of review but it has been reviewed

11a SPCC #	11b Case #	11c NPDES # / / Not Available
5-8411-09		

12a Inspector (Sign): Curtis R. Michols

12b Date:

12-13-84

12c Inspector (Print):

Curtis R. Michols

EPA Form 7500-53 (9-80)

SPCC # 5-8411-09 | Case # | Date of Inspection: 12-12-84

Name of Inspector (Signature): Curtis R. Michols | Date of Documentation Report 12-13-84

Name of Inspector (Print): Curtis R. Michols | NPDES #

1. Facility

a. Company: American Chemical Service, Inc.

Address: 420 S. Colfax ave. | Telephone: 219-838-4370

City: Griffith | State: Indiana | Zip Code: 46319

Facility Name: Same

b. Facility Location: Same

Parent Corporation: Same

Address: Same

City: Same | State: Same | Zip Code: Same

Water Body Protected: Turkey Creek

2. Purpose

Initiation: [X] Routine Surveillance [ ] Coast Guard Information

[ ] Spill Report [ ] Citizen Information [ ] Other (specify):

Type: [ ] Plan Preparation [X] Plan Implementation

[ ] Follow-up [ ] Plan Amendment

3. Inspection

Individual Contacted: James Tarpo | Title: Exec. Vice President

Individual Contacted: John J. Murphy | Title: Vice President

Notification: James Tarpo

4. Findings

Source in Apparent Compliance with SPCC Requirements

[X] Yes
- [X] Have adequate plan
- [ ] Not subject to regulations
  - [ ] Insufficient storage
  - [ ] No reasonable spill expectation
- [X] Plan fully implemented
- [ ] New facility operational less than 6 months

[ ] No
- [ ] No plan
- [ ] Plan not properly certified
- [ ] Plan does not have management approval
- [ ] Plan not maintained at facility manned 8 hrs/day
- [ ] Inadequate plan (detailed SPCC Plan review attached)
- [ ] Plan not fully implemented
- [ ] Plan not reviewed within 3 years

[ ] Other

5. Attachments (None required if facility in apparent compliance)

	None	Attached	On File
*Detailed Observations	[ ]	[X]	[ ]
*Photographs	[ ]	[X]	[ ]
Slides	[X]	[ ]	[ ]
Map	[X]	[ ]	[ ]
*Field Drawing	[ ]	[X]	[ ]
*Comments	[ ]	[X]	[ ]
Telephone Conversations	[X]	[ ]	[ ]
*SPCC Plan	[ ]	[X]	[ ]

*ALL REQUIRED IF FACILITY IS NOT IN APPARENT COMPLIANCE. If photos not permitted, check "None" and explain. Add "SPCC Plan" to List of Attachments when appropriate.

C. DETAILED SPCC DOCUMENTATION

See Instructions On Page 8

Facility: American Chemical Service, Inc.

Date of Inspection 12-12-84

1. Facility Description

1a Type of Business/Operation: Chemical/Hazardous Waste reclaimation

1b Facility Oil Storage:

See attached list

1c Prevention Measures Provided:

- Tanks are constructed according to ASME specifications
- Tanks have direct reading gauges
- Venting capacity is suitable for loading and unloading
- Main power switches are located in electrical building 50' away from diked area
- Dike surronds each fixed storage area
- West border is elevated and surronding road beds are elevated
- Buildings are locked when unattended
- Personnel have been trained in spill prevention and instructions and phone numbers are posted

1d Appearance of Facility (housekeeping):

Clean

.e Past Spill History:

None reported

2. Receiving Water (should a spill occur)

2a Name and/or description:

Turkey Creek 1.5 miles south which runs into Lake George 10 miles east

[X] Perennial [ ] Intermittent
[ ] Water present at time of inspection
[ ] Inspector traced discharge to receiving water
[ ] Inspector traced apparent drainage path to receiving water
[X] Receiving water identified by company representative
[ ] Receiving water identified from topo maps
[ ] Receiving water identified by other means (specify):

2b Probable flow path to receiving water:

Over land and drainage ditches via gravity

2c Hours facility is manned:

24 hours per day monday- saturday
half day on sundays

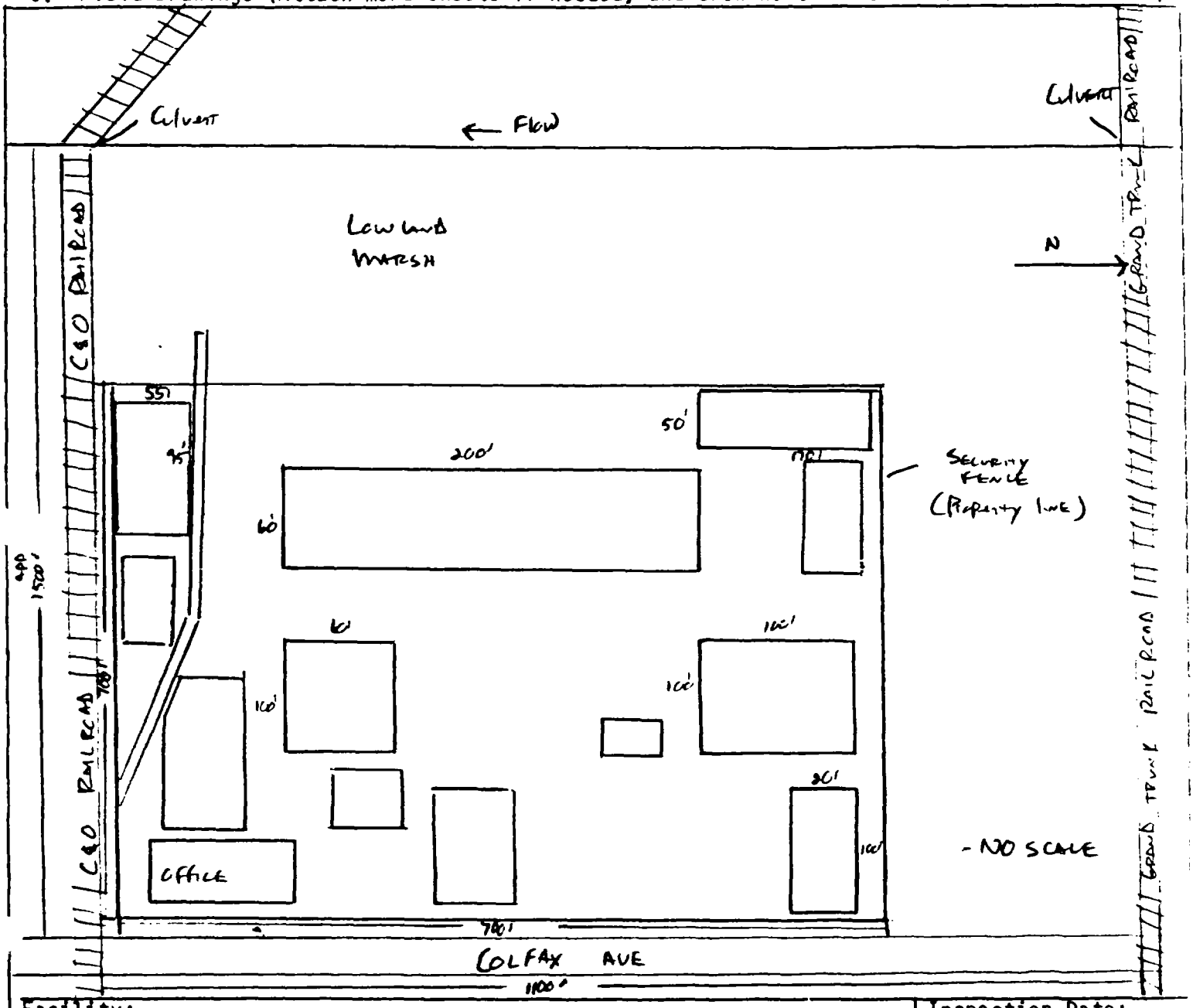
3. Comments

- Have daily tank logs
- Has emergency coordinator (see plan)
- # 2 fuel oil tanks have cement diking with a water drain valve that is closed when not in use, it is also checked daily
- All tank farms have earthen diking of adequate size

Prevention measures con.

- Tanks are inspected daily by maintenance personnel, have plan and schedule of inspection
- Plant is designed for efficient drainage
- Dikes have cement bottoms
- Area has security lights and entire periphery is fenced

6. Field Drawings (Attach more sheets if needed, and show north arrow or other orientation)



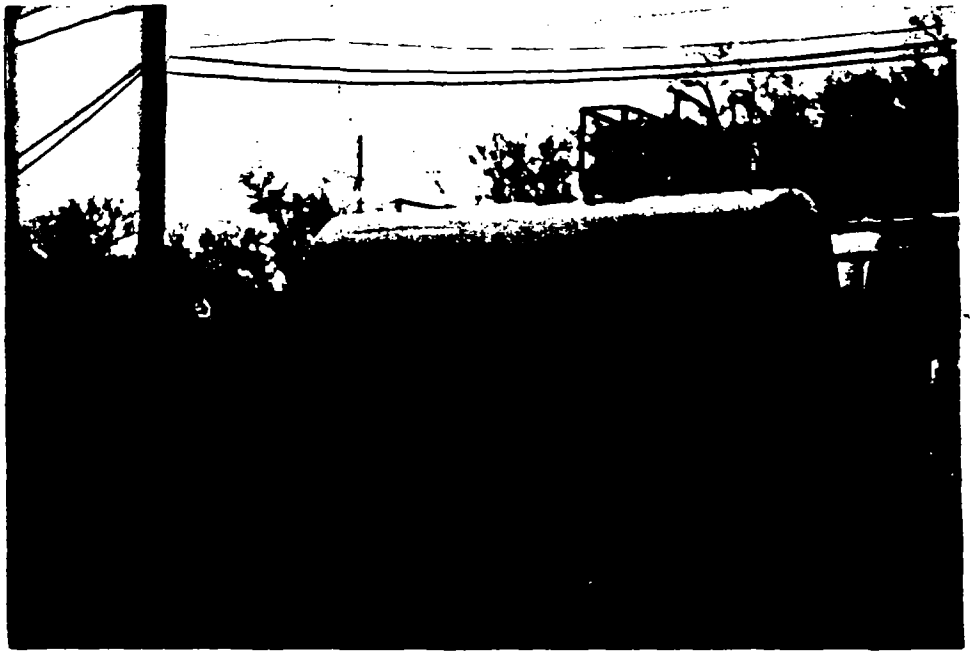
Facility:	Inspection Date:
Inspector:	

EPA Form 7500-54

7. Photographs (Attach more sheets if needed)

Subject: #2 Fuel oil tanks with dike and water drain valve	**Facility:** American Chemical Services
Photographer: Sally Matz	**Witnesses:** Curtis R. Michols
Date/Time Direction: 12-12-84/1345/N.E.	**Camera/film/attachments:** Olympus 35mm/100ASA
Subject: Storage tanks for vehicular use	**Facility:** American Chemical Services
Photographer: Sally Matz	**Witnesses:** Curtis R. Michols
Date/time/direction: 12-12-84/1400/N	**Camera/film/attachments:** Olympus 35mm/100ASA

ATTACH PHOTOGRAPHS HERE



Facility:	**Inspection Date:**
Inspector:	

PETROLEUM OR A L BASE PAINTS

FIXED STORAGE

* ~~BARRELHOUSE STORAGE~~ - 8 -20000 gal. VERT TANKS

* ~~1-~~ 6249

* 1- L-9

1- Amotone

1-547

1-575

1-AF-3

2 MT

2-4000 gal. Vertical Tanks (SP 155)

Total 164,000

EPOXOL STORAGE	1- 25,000 gallon horizontal underground (linseed oil)	ADD 1-17000 GAL VERT TK (FINAL PROD) ADD 1-12,000 GAL VERT TK (FINAL PROD)
	1- 10,000 gal. vertical tank (final prod.)	
	1- 8,000 gal. vertical tank (~~final prod.~~)	WASH TK
	1- 12,000 gal. horizontal tank (~~benzene~~)	TOLUENE
	1- 6,000 gal. horizontal tank (caustic)	
	2- 8,000 gal. horizontal tank (peroxide)	
	1- 1,000 gal. vertical tank (bromine)	
Total	70,000	
	ADD 2-40,000 GAL VERT TK (RUBBER OIL)	
575 Storage -	2-40,000 gal. vertical tank (L-10,L-10PSA	
	2-25,000 gal. vertical tank (575,A547)	
	1-20,000 gal. vertical tank (575)	
	1-15,000 gal. vertical tank (total 500)	
	1-18,000 gal. vertical tank (DETA)	
	1-18,000 gal. vertical tank (C-9	
	1-18,000 gal. vertical tank (5W)	
	1-15,000 gal. vertical tank (nonylphenol)	
	1- 6,000 gal. vertical tank (form)	
	1-12,000 gal. vertical tank (MA)	
	1- 2,000 gal. vertical tank (5W)	
Total	189,000	
~~Incineration~~ WASTE FUEL	ADD 2-25000 GAL VERT TK WASTE SOLVENT	
Storage	1-15,000 (202) gal. vertical tank waste solvents	
	1-18,000 (203) gal. vertical tank waste solvents	
	1-18,000 (204) gal. vertical tank waste solvents	
	1-25,000 (205) gal. vertical tank waste solvents	
	1-18,000 (207) gal. vertical tank waste solvents	
Total	94,000	
Manufacturing Storage	2-6000 GAL VERT TK (FURF ALC)	
	2-1100 gal. vertical tank (mek, xylol)	
Total	2200	
Reclaiming Storage	1- 6,000 gal. vertical tank (kerosene	
	1 12,000 gal. " " (LT)	

CRUDE = CRUDE SOLVENT

ADD 4- 12000 GAL VERT TK (CRUDE)

1-	20,000	gal.	Vertical	tank
1-	1,000	"	"	"
1-	1,000	"	"	" (toluol)
1-	3,000	"	"	" (crude)
1-	12,000	"	"	" (Nat. can)
1-	10,000	"	"	" (crude)
1-	1,000	"	"	"
1-	1,000	"	"	" (crude)
1-	7,000			(FA)
1-	10,000	"	"	" (CT)
1-	10,000	"	"	" (Toluene)
1-	6,000	"	"	" (VM&P)
1-	2,000	"	"	" (crude)
1-	4,000	"	"	" (VM&P)
1-	10,000	"	"	" (S-307)
1-	10,000	"	"	" (crude)
1-	10,000	"	"	" (LT)
1-	1,000	"	"	" (crude)
1-	1,000	"	"	" (Ethyl Acetate)
1-	2,000	"	"	"
1-	2,000	"	"	"
1-	6,000	"	"	" (RC-911)
1-	2,000	"	"	"
1-	1,000	"	"	" (LT)
1-	1,000	"	"	"
1-	2,000	"	"	" (Styrene)
1-	1,000	"	"	" (Xylol)
1-	2,000	"	"	"
1-	18,000	"	"	" (crude)
1-	13,000	"	"	" (crude)
Total	213,000	"		

Total Gallons 732,200

Vehicles - 1- 7,000 gal. compartmented tank wagon

3. PAST SPILL EXPERIENCE

None

4. SPILL PREVENTION - STORAGE TANKS

1. Each tank is constructed according to ASME specifications for the material it contains.

2. Each tank is equipped with a direct reading gauge
3. Venting capacity is suitable for the loading and unloading rates.
4. Main power switches for the pump or pumps loacated in each fixed storage area is located in an electrical building at least 50' away from the diked area. The buildings are locked when the plant is unattended.

american Chemical Service, Inc.
P.O. Box 190 • Griffith, Indiana 46319
(219) 838-4370 • Chicago Phone (312) 768-3400

SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

AMERICAN CHEMICAL SERVICE, INC.

420 South Colfax
P.O. Box 190
Griffith, Indiana 46319

Telephone AC 219/838-4370

CONTACT

JAMES TARPO, PLANT MANAGER

Certification:

Engineer: Robert L. Lippman

Signature: Robert L Lippman (Seal)

License Number: 1374 State: Indiana

Date April 2, 1975

1. NAME & OWNERSHIP

Name: American Chemical Service,Inc.
420 South Colfax
P.O. Box 190
Griffith,Indiana 46319
Ph: 219-338-4370

General Manager: James Tarpo
6183 Mulberry Dr.
Portage,Indiana 46368
219-762-2771

Owner: George R. Murphy, President
P.O. Box 231, Gig Harbor Wash. 98335 Ph: 206-858-9393

James Tarpo, Executive Vice-President
6183 Mulberry Dr. , Portage,Ind. Ph: 219-762-2771

James T. Murphy, Vice-President
856 White Oake Lane, Park Forest South,Ill. Ph: 312-534-0345

John J. Murphy, Vice President
601 Stratford, Valparaiso,Ind. Ph: 219-464-2076

Other Personnel:
(6) Salary Personnel (Supervisory)
(21) Hourly Personnel (Operators)

Service Area: Midwest States - Illinois, Indiana,Ohio, Iowa and Wisconsin

2. DESCRIPTION OF FACILITY

American Chemical Service's business consists of Custom Chemical manufacturing, solvent reclaiming and waste incineration. On site is the equipment to receive, process, and ship various solvents and chemicals in drums and bulk.

The accompanying drawing shows the property boundaries, adjacent highway, drainage ditch, holding pond, tanks area and on-site buildings.

Fixed Storage:

Barrel House Storage - 8 - 20,000 gal. Vertical Tanks
1 - 6249
1 C-9

PETROLEUM OR A L BASE PAINTS

FIXED STORAGE

* BARN HOUSE STORAGE - 8 - 2000 gal. VERT TANKS

* 1- 6249

* 1- L-9

1- Amotone
1-547
1-575
1-AF-3
2 MT
2-4000 gal. Vertical Tanks (SP 155)

Total 164,000

EPOXOL STORAGE
1- 25,000 gallon horizontal underground (linseed oil)
ADD 1- 17,000 GAL VERT TK (FINAL PROD)
ADD 1- 12,000 GAL VERT TK (FINAL PROD)
1- 10,000 gal. vertical tank (final prod.)
1- 8,000 gal. vertical tank (~~final prod.~~) WASH TK
1- 12,000 gal. horizontal tank (~~benzene~~) TOLUENE
1- 6,000 gal. horizontal tank (caustic)
2- 8,000 gal. horizontal tank (peroxide)
1- 1,000 gal. vertical tank (bromine)
Total 70,000

ADD 2-40,000 GAL VERT TK (RUBBER OIL)

575 Storage -
2-40,000 gal. vertical tank (L-10,L-10PSA
2-25,000 gal. vertical tank (575,A547)
1-20,000 gal. vertical tank (575)
1-15,000 gal. vertical tank (total 500)
1-18,000 gal. vertical tank (DETA)
1-18,000 gal. vertical tank (C-9
1-18,000 gal. vertical tank (5W)
1-15,000 gal. vertical tank (nonylphenol)
1- 6,000 gal. vertical tank (form)
1-12,000 gal. vertical tank (MA)
1- 2,000 gal. vertical tank (5W)
Total 189,000

WASTE FUEL
~~Incineration~~ Storage
ADD 2- 25000 GAL VERT TK WASTE SOLVENT
1-15,000 (202) gal. vertical tank waste solvents
1-18,000 (203) gal. vertical tank waste solvents
1-18,000 (204) gal. vertical tank waste solvents
1-25,000 (205) gal. vertical tank waste solvents
1-18,000 (207) gal. vertical tank waste solvents
Total 94,000

Manufacturing Storage
2-6000 GAL VERT TK (FURF ALC)
2-1100 gal. vertical tank (mek, xylol)
Total 2200

Reclaiming Storage
1- 6,000 gal. vertical tank (kerosene
1 12,000 gal. " " (LT)

CRUDE :. CRUDE SOLVENT

ADD 4- 12000 GAL VERT TK (CRUDE)

1-	20,000	gal. Vertical	tank
1-	1,000	" "	"
1-	1,000	" "	" (toluol)
1-	3,000	" "	" (crude)
1-	12,000	" "	" (Nat. can)
1-	10,000	" "	" (crude)
1-	1,000	" "	"
1-	1,000	" "	" (crude)
1-	7,000		(FA)
1-	10,000	" "	" (CT)
1-	10,000	" "	" (Toluene)
1-	6,000	" "	" (VM&P)
1-	2,000	" "	" (crude)
1-	4,000	" "	" (VM&P)
1-	10,000	" "	" (S-307)
1-	10,000	" "	" (crude)
1-	10,000	" "	" (LT)
1-	1,000	" "	" (crude)
1-	1,000	" "	" (Ethyl Acetate)
1-	2,000	" "	"
1-	2,000	" "	"
1-	6,000	" "	" (RC-911)
1-	2,000	" "	"
1-	1,000	" "	" (LT)
1-	1,000	" "	"
1-	2,000	" "	" (Styrene)
1-	1,000	" "	" (Xylol)
1-	2,000	" "	"
1-	18,000	" "	" (crude)
1-	18,000	" "	" (crude)
Total	213,000	"	

Total Gallons 732,200

Vehicles - 1- 7,000 gal. compartmented tank wagon

3. PAST SPILL EXPERIENCE

None

4. SPILL PREVENTION - STORAGE TANKS

1. Each tank is constructed according to ASME specifications for the material it contains.

2. Each tank is equipped with a direct reading gauge
3. Venting capacity is suitable for the loading and unloading rates.
4. Main power switches for the pump or pumps loacated in each fixed storage area is located in an electrical building at least 50' away from the diked area. The buildings are locked when the plant is unattended.

5. A dike surrounds each fixed storage area. The volume of the diked area is based on the Indiana Fire Marshall's Flammable Liquids Code, and allowances, Inc.

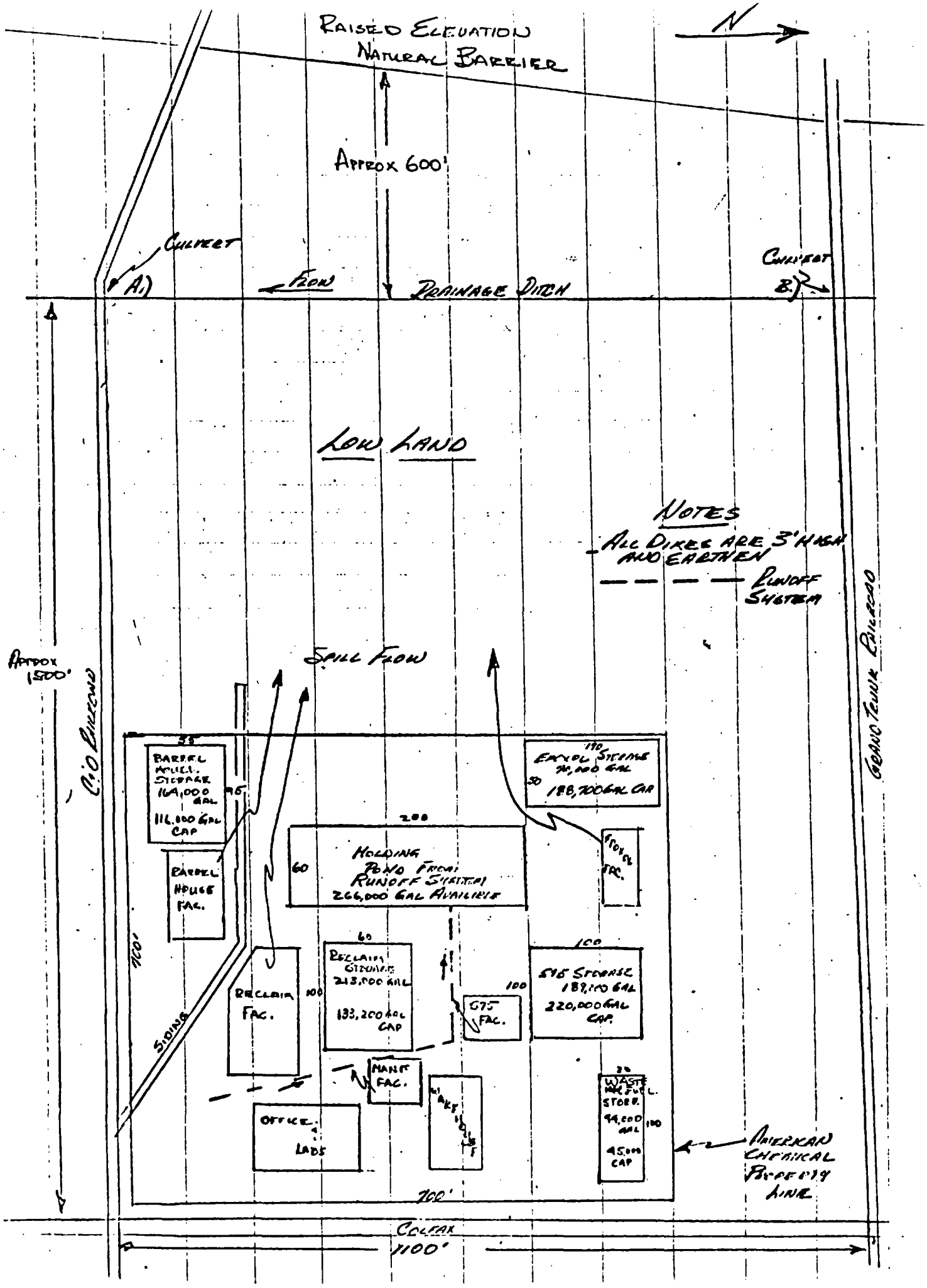
5. SPILL PREVENTION - PLANT

American Chemical is bordered by Colfax Avenue on the East, C&O Railroad on the South, Grand Trunk Railroad on the North, and low land with an elevated barrier on the West. Both the track beds of the C&O and the Grand Trunk are elevated above the natural terrain of the plant site and thus providing a barrier to spill flow. The roadbed of Colfax Avenue is likewise elevated, and would resist spill flow in an Easterly direction. As the attached sketch of ACS shows the processing facilities (Barrel House, Epoxol and Recaliming) in event of an inprocess spill would flow in a westerly direction into the lowland. By earthen diking at culvert A&B the spill would be contained in the lowland until appropriate cleanup can be initiated. The 575 and Manufacturing facilities in event of an inprocess spill would flow into the runoffi system into the holding pond (266,000 gal. capacity available) until appropriate recovery. A local excavator (Lean Wells) has the necessary equipment and has been contacted about the possibility of emergency containment and recovery methods.

6. PERSONNEL

ACS has been located in Griffith for 20 years and in that time we have not had a major spill. Personnel are constantly aware of the dangers of a major chemical spill both as a fire and an environmental threat. Cleanup compaigns are common place at ACS and the personnel are responsible for their own working areas. This promotes a more conscientious attitude toward spill prevention.

ACS has 24 hour supervision at the plant and each supervisor is aware of emergency spill procedures. Instructions and phone members have been posted in the supervisors offices regarding the reporting of spill to Environmental Protection Agency and the Indiana Department of Water and Air Resources.


RAISED ELEVATION
NATURAL BARRIER
N
APPROX 600'
CULVERT
A)
FLOW
DRAINAGE DITCH
CULVERT
B)
LOW LAND
NOTES
ALL DIKES ARE 3' HIGH AND EARTHEN
RUNOFF SYSTEM
SPILL FLOW
APPROX 1500'
C&O RAILROAD
GRAND TRUNK RAILROAD
BARREL ANCILL. STORAGE 169,000 GAL 116,000 GAL CAP
BARREL HANDLG FAC.
HOLDING POND FROM RUNOFF SYSTEM 266,000 GAL AVAILABLE
ETHYL STORAGE 24,000 GAL 188,700 GAL CAP
STORAGE FAC.
RECLAIM STORAGE 213,000 GAL 133,200 GAL CAP
RECLAIM FAC.
SYS STORAGE 189,100 GAL 220,000 GAL CAP.
SYS FAC.
MAINT FAC.
OFFICE & LABS
WASTE HAZ. FUEL STORAGE 99,000 GAL 45,000 CAP
SIDING
700'
COLFAX
1100'
AMERICAN CHEMICAL PROPERTY LINE

DIKE DESIGN PROCEDURE

1. RULES and REGULATIONS of the STATE FIRE MARSHALL Regulating the Use, Handling, Storage, and Sale of Flammable Liquids in the State of Indiana.

Chapter II, Section 206

206-02: Flammable Liquids Other Than Crude Petroleum:

Individual tanks or groups of tanks, where deemed necessary by the State Fire Marshall on account of proximity to waterways, character of topography, or nearness to structures of high value, or to *places of habitation or assembly*, shall be diked or the yard shall be provided with a curb or other suitable means taken to prevent the spread of liquid onto other property or waterways. Where a diked enclosure is required under this section, it shall have a net capacity not less than that of the largest tank plus ten percent of the aggregate capacity of all other tanks served by the enclosure.

206-03: Dike Construction:

Except where protection is provided by natural topography, dikes or retaining walls required under the foregoing section shall be of earth, concrete, or solid masonry designed to be liquid tight and to withstand a full hydraulic head, and so constructed as to provide the required protection. Earthen dikes 3 feet or more in height shall have a flat section at the top not less than 2 feet wide. The slope shall be consistent with the angle of repose of the material of which the dikes are constructed. Unless means are available for extinguishing a fire in any tank containing crude petroleum, dikes and walls enclosing such tanks shall be provided at the top with a flareback section designed to turn back a boil-over wave, provided, however, that a flareback section shall not be required for dikes and walls enclosing approved floating roof tanks.

206-04 Drainage:

Where provision is made for draining rain water from diked areas, such drains shall normally be kept closed and shall be so designed that when in use they will not permit flammable liquids to enter natural water courses, public sewers, or public drains, if their presence would constitute a hazard.

Dike Capacity Calculations

Epoxol Storage

170' x 50' x 3' = 25,500 cu. ft.
25,500 x 7.4 gal./ cu ft. = 188,700 gallons capacity

Total gallon storage	- 70,000 gallons
Largest storage tank	- 25,000 gallons
10% of remaining stirage	- 4,500 gallons
	29,500 gallons required dike capacity

Barrel House Storage

55' x 95' x 3' = 15,675 cu. ft.
15,675 x 7.4 gal./ cu ft. = 115,995 gallons capacity

Total gallon storage	-164,000 gallons
Largest storage tank	- 20,000 gallons
10% of remaining storage	- 14,400 gallons
	34,400 gallons required dike capacity

575 Storage

100' x 100' x 3' = 30,000 cu. ft.
30,000 x 7.4 gal/ cu. ft. = 222,000 gallons capacity

Total gallon storage	- 189,000 gallons
Largest storage tank	- 40,000 gallons
10% of remaining storage	- 14,900 gallons
	54,900 gallons required dike capacity

WASTE FUEL Incineration Storage

20' x 100' x 3' = 6,000 cu. ft.
6000 x 7.4 gal/ cu. ft. = 44,400 gallons capacity

Total gallons Storage	- 94,000 gallons
Largest storage tank	- 25,000 gallons
10% of remaining storage	- 6,900 gallons
	35,900 gallons required dike capacity

Reclaiming Storage

60' x 100' x 3' = 18,000 cu ft.
18,000 x 7.4 gal./ cu. ft. = 133,200 gallons cpapcity

Total gallons storage	-	213,000 gallons
Largest Storage tank	-	20,000 gallons
10% of remaining storage	-	19,300 gallons
		39,300 gallons required dike capacity

7. Future Spill Prevention Plans

1. Continue to incorporate all tanks into diked areas.

2. Make available to all personnel at American Chemical Service a written emergency spill plan in case time would not permit the contacting of a plan supervisor.

3. Locate necessary fill piles for earthen dams at culvert A & B - The location will

4. Continue to emphasis the importance of cleanup, preventative maintenance and a general spill prevention awareness to the personnel.

James Tarpo
General Manager

ATTACHMENT C

Photographs

American Chemical Services
Drum Fill, Griffith, IN
11/29/84
Photographer: Stofferahn

PHOTO 1
Fuel tank at east side of drum fill.

PHOTO 2
Monitor well #1

Drum Fill, Griffith, IN
11/29/84
Photographer: Stofferahn

PHOTO 3
Water on site with
odor of mercaptans

PHOTO 7
Monitor well #2

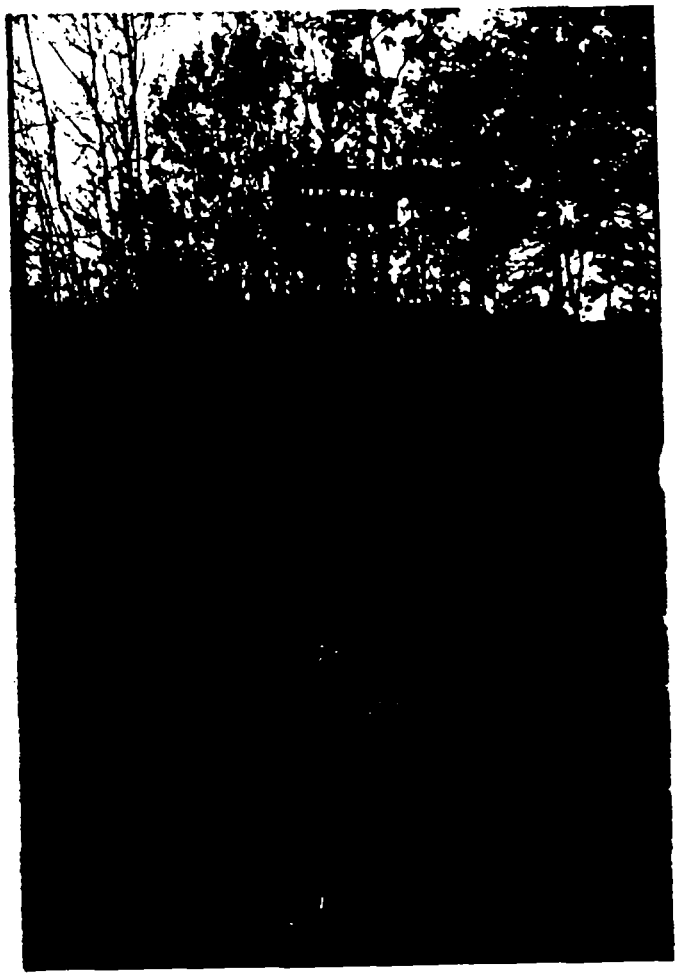


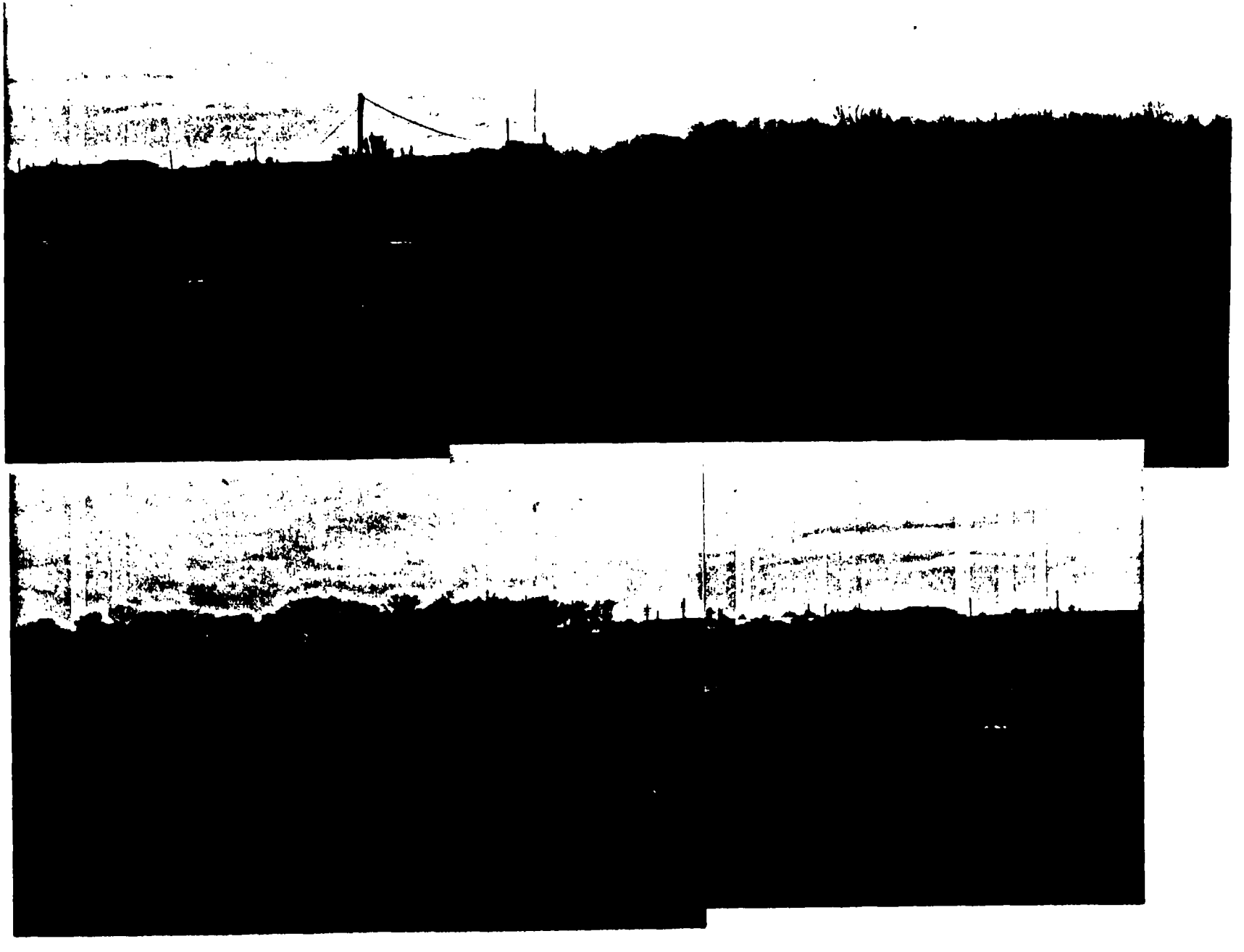
PHOTO 8
Monitor well #3

American Chemical Services
Drum Fill, Griffith, IN
11/29/84
Photographer: Stofferahn

PHOTO 4, 5 & 6
Area of old lagoon
on American Chemical
Services site

American Chemical Services
Drum Fill, Griffith, IN
11/29/84
Photographer: Stofferahn PHS

PHOTO 9, 10, 11 & 12
Griffith Municipal Landfill



American Chemical Services
Drum Fill, Griffith, IN
11/29/84
Photographer: Stofferahn

PHOTO 15
Confluence of
drainage ditches
NW of monitor well -
#3

American Chemical Services
Drum Fill, Griffith, IN
11/29/84
Photographer: Stofferahn

PHOTO 13
Pump house for
landfill sump

PHOTO 14
Monitor well #4

Mr. Robert Bowden, Chief
Waste Management Division
Emergency Response Section
U.S. Environmental Protection Agency
11th Floor
230 South Dearborn Street
Chicago, Illinois 60604

December 18, 1984

TAT-05-F-00478

Reference: American Chemical Service, Griffith, IN, Site
TDD# 5-8411-09

Dear Mr. Bowden:

On November 14, 1984, the Technical Assistance Team (TAT) was tasked to ~~investigate~~ assess, and conduct an SSC inspection; the American Chemical Service site, located in Griffith (Lake County), Indiana. This report details TAT's findings pursuant to this TDSA, an also includes a SSC inspection performed at this facility.

SITE HISTORY

American Chemical Services (ACS) is a solvent reclamation and chemical manufacturing facility located at 420 South Colfax, Griffith, Indiana (Figure 1). ACS began operations in May 1955, solely as a solvent recovery firm. Later, the company also began limited chemical manufacturing. Mr. James Tarpo is president of ACS, Messrs. John and James Murphy are the firm's vice presidents.

ACS's solvent recovery process generates still bottom wastes which were originally deposited in a holding lagoon located in the southern portion of the facility. In the 1960s,

caused vegetation kills in a marsh immediately to the west of the site. Operation of this lagoon was terminated in 1972 when it was filled in with drums partially full of sludge materials. A portion of this lagoon may have been the site of a fire water pond constructed in November 1973. It is located at the southwestern corner of the facility and stores water for fire control purposes. The remainder of the lagoon was, however, graveled over.

From 1958 to 1975, ACS operated a small landfill on a piece of property directly south of their plant (Figure 2). Throughout its operation, the landfill was utilized in the disposal of a variety of wastes generated at the ACS plant.

Originally, the still bottoms from the aforementioned lagoon were disposed of in this landfill. From 1968 to 1970, ACS operated an incinerator at their facility, wastes from the incinerator were deposited in the fill during this period. In addition to these wastes, general refuse and an estimated 20,000 to 30,000 drums were deposited in the fill prior to its closure. These drums reportedly were either empty or partially full of unreclaimable wastes. ~~Also,~~ A tank truck partially full of sludge material, was also buried in the fill. ACS reports that Leachate problems have ~~reportedly~~ been associated with the landfill since the 1960s, but have steadily decreased over the years.

Dept. of redevel. department

In 1972, ACS terminated the use of the landfill and the site was capped with a reported two to three foot layer of soil material. In 1980, a 31 acre portion of property owned by ACS to the west of the drum fill was sold to the City of Griffith. The city used this property for an expansion of their municipal landfill, which had been operating to the southwest of the ACS property. This transaction reportedly included an approximately six foot wide strip of the west edge of the drum fill.

As previously mentioned, ACS began operation of an incinerator at their plant in 1968. As well as taking still

wastes from off-site sources were accepted. Mr. Tarpo has reported a rate of 2 million gallons of waste ~~burned~~ per year burned at this facility.

In October 1971, ACS began a swine fat reprocessing operation. ~~at their facility~~. ~~Apparently~~ due to its economic liability to the firm, ~~this~~ it was terminated in April 1973. In May 1972, a production line was opened for the manufacturing of a gasoline additive for the American Oil Company, referred to as "Amotone." In early 1974, ACS began manufacturing a plasticizer called "Epoxol" for the Swift Chemical Division. Both materials are currently being manufactured at the facility. Since 1983, "Epoxol" has been produced by ACS for its own distribution. ~~itself.~~ Also, the major operation at the site remains solvent recovery. Aqueous wastes generated at the facility are reported to be disposed of off site.

Prior Site Investigations

There are no available regulatory inspection reports for the ACS facility on a local, state or federal level prior to 1972. From April 1972 to September 1973, the Indiana State Board of Health Division of Stream Pollution Control (ISBH-DSPC) conducted regular inspections of the facility. When ACS began Expoxol manufacturing in early 1974, the facility was connected to the Griffith City sewer system, at which time monthly effluent testing was begun by the Griffith Department of Public Works.

On May 8 and 9, 1980, personnel from the U.S. Environmental Protection Agency (U.S. EPA), Region V Surveillance and Analysis Division of the Environmental Emergency and Investigative Branch visited the ACS landfill. The purpose of this visit was to investigate the leaching problems associated with the site. A pool of leachate was encountered on the north side of the drum disposal area. A sample of ~~the~~ leachate was collected from this pool approximately 15 feet north of the drum fill. A subsurface soil sample was also collected near the ~~leachate~~ pool, roughly 10 feet north of the drum fill. This sample was collected at a depth of 5 feet. A subsurface soil sample was also collected from an area approximately 36 feet east of the drum disposal area. This

water sample was collected from a drainage ditch feeding a culvert under the C&E rail line, on the southwest corner of the landfill property. The sample locations, as described by U.S. EPA, were not positively identified by the TAT during TAT's site assessment. The analytical results from the samples are summarized in Tables 1 and 2

Since November 1980, the ACS plant has operated as a hazardous waste facility under the Interim Status Standards of the Resource Conservation and Recovery Act (RCRA). The ISBH routinely inspects the ACS facility under RCRA Interim Authorization. While ACS has not been formally notified, both the ISBH and U.S. EPA contend that ~~the~~ a fire water pond, located ~~on~~ in the southwest site, is a surface impoundment, as it collects drainage from potential spill areas. As such, this pond would be subject to the ground water monitoring requirements of Subpart F of the Interim Status Standards. ACS, however, claims this is not a surface impoundment, ~~stating that~~ stating the pond holds only water for fire control purposes, ~~only.~~ It is not

known what regulatory position (~~regarding RCRA~~) either U.S. EPA or ISBH is presently taking regarding the landfill or old lagoon.

In 1981, several private water supply wells near the facility were sampled by the ISBH. These samples were subsequently analyzed for a variety of inorganic parameters, the results of which are presented in Table 3. This sample collection failed to yield any conclusive results regarding the threat of contamination from the ACS facility or other nearby potential contaminant sources. ~~Additionally, TAT feels that some of the results reported may be suspect. As an example, the results for molybdenum are extremely high for ground water and are consistently high throughout the collection.~~

In July of 1982, the U.S. EPA Field Investigation Team (FIT) established four monitoring wells on and near the ACS landfill (Figure 2) in order to investigate potential ground water contamination from the site. Ground water flow direction was determined to be towards the northwest. Results of these sample collections are presented in Table ~~4~~. Monitoring wells 1, 2 and 3 ~~are~~ were found to be contaminated with a variety of organic substances, primarily volatile organic materials.

immediate vicinity of ACS were sampled by Andy Livovich, a chemist with the Lake County Health Department. A listing of those wells is provided in Table __. Analysis of these samples ~~with a~~ by gas chromatography (GC) was subsequently made by Mr. Livovich. Three samples yielded results which Mr. Livovich was not able to adequately interpret. As such, one sample (the O'Neil residence) was sent to the ISBH laboratory for further analysis. Results from the ISBH remain pending.

SITE ASSESSMENT

On November 29, 1984, TAT members Stofferahn, Matz, and Michols conducted a site assessment of the ACS facility and adjacent landfill. The TAT arrived on site at 1120 and received permission from Mr. Tarpo to enter the landfill property. Later in the afternoon, Mr. Tarpo and Mr. John Murphy were interviewed, after which a brief facility tour was made. A second landfill site reconnaissance was then made.

Site Description

Figure (2) indicates the land use surrounding the ACS plant and landfill. Property to the north and west of the plant ~~is~~ was undeveloped. A large cattail marsh ~~can be found~~ was located just west of the plant. The City of Griffith's municipal landfill ~~is~~ was located southwest of the plant and the ACS fill. The Pazdey Drum Reconditioner ~~is~~ was located on the southern border of the ACS fill. Several residences and a few small businesses ~~are~~ were located to the south and southeast of the ACS fill. These reportedly utilize their own water supply wells. A subdivision ~~is~~ was also located approximately one-half mile northwest of the ACS facility. The water supply for this subdivision reportedly originates from the City of Griffith; the city utilizes Lake Michigan water purchased from the cities of Hobarth and Gary, Indiana.

The old Chesapeake and Ohio rail line abuts the southern edge of the ACS plant, separating the plant from the ACS and municipal landfills. Use of these tracks reportedly ceased in September 1981; the lines had served the ACS facility. Another abandoned rail line, the Erie-Lackawanna, abuts the southwestern edge of the municipal landfill. No tracks remain along the section of the line edging the landfill.

~~showing the ACS facility and surrounding area.~~ As ~~this map~~ I go to (2) indicates, drainage from the ACS plant and fill ~~is~~ was to the northwest. Drainage swales along each of the aforementioned rail lines also drain in this direction, except at the intersection of the E&L rail bed and Arborgast Road. From this point, drainage would proceed to the southeast towards Turkey Creek.

A drainage swale ~~is~~ was also present on the municipal landfill, running from the eastern edge of the fill around to the northwest, paralleling ~~the~~ a ditch along the E&O tracks. Both ditches ran to a marsh west of the municipal landfill. Another ditch, which ran through this marsh, intersected these ditches and appeared to connect to the large marsh west of the ACS plant. This area is further detailed under the ~~ECC~~ SPCC report regarding the SPCC inspection performed by TAI

It is reported that two aquifers exist under the site, separated by a clay layer. Boring logs from the monitoring

wells indicate deposits of predominantly sand and gravel materials to a depth of approximately 14 to 23 feet, after which a silty clay layer begins. This clay layer has been reported to be roughly 15 to 25 feet thick. Depth to the water table is not known. The on-site monitoring wells are screened in the upper aquifer. The Indiana Department of Natural Resources (IDNR) reports that most of the nearby private wells were screened into the lower aquifer.

Site Reconnaissance

The TAT initially conducted a reconnaissance of the fill area, attempting to locate the monitoring wells installed by FIT. The ACS fill was noted to be capped and a good ~~weed~~ growth of weedy vegetation had been established. No leachate or staining from prior leachate seeps ~~were~~ was encountered. A tank with an estimated capacity of 3,000 gallons was found on the eastern portion of the fill. An open port was noted on one side of this tank; a dark sludge-like material was seen ~~on the side~~ under this port, ~~of~~ the tank. ~~A piece of cloth had been stuffed inside this port.~~ was observed A slight elevation in readings from a HNU photoionizer was encountered at this port, approximately 5 ppm over the ambient level. Monitoring well 1 was ~~a~~ located at this time. The lock on the metal casing of this well could not be opened, however, by lifting the casing cap slightly, an

readings were obtained, fluctuating from 5 to 14 ppm over ambient conditions.

After completing this initial reconnaissance, the TAT interviewed Mr. James Tarpo, President, and Mr. John Murphy, Vice President of ACS. Messrs. Tarpo and Murphy indicated that the ACS filling operations never went below grade; as such, the depth of fill is roughly 4 to 6 feet. When asked about a buried tank car in the fill, they replied that that was an old fuel oil truck used for hauling paint solvents that had deteriorated to an inoperable condition. It reportedly contained about one foot of sludge when buried. Messrs. Tarpo and Murphy were then questioned about the plant lagoon. They indicated that the old lagoon was about 100 feet across at its widest point, and about 150 feet long. It was basically an above-grade structure, with the possible exception of one end, as it was reportedly built on a slight slope. The depth of the lagoon was estimated at three feet.

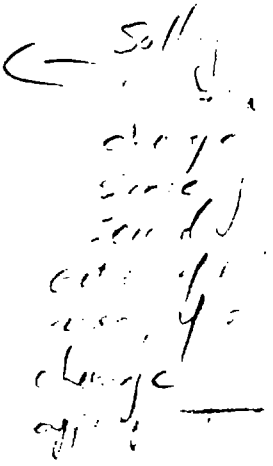
Messrs. Tarpo and Murphy stated that ACS has four on-site wells with casings of about 300 feet each. Submersible pumps are set at levels of 90 to 100 feet below grade. However, a well log, obtained from the Indiana Department of Natural Resources IDNR for a well located at the ACS plant (Attachment A), indicates the depth of that well to be 74 feet. These wells supply process and drinking water for the plant. No priority pollutant testing has apparently been ~~in~~ on these wells.

Messrs. Tarpo and Murphy also indicated that the Griffith landfill took hazardous materials in the 1960s. Regarding the drum reconditioning facility south of the ACS fill, this was originally operated by a firm ~~called~~ named Kapica. Kapica sold the facility in 1980 to Pazmey. They mentioned that Pazmey had been cited by the ISBH for dumping waste water at their site. In regards to their own fill, they indicated that they capped a leachate seep at the north end in 1980. They also indicated that the fill, and apparently also the lagoon, had leaching problems back in the 1960s, but these problems have generally subsided over the years. They also stated that these leaching problems had caused considerable vegetation kills in the adjacent marsh, west of the facility. Finally, the TAT mentioned reports of the Griffith landfill pumping leachate off their site. Messrs. Tarpo and Murphy stated that they were unaware of any such activity. [illegible]

Upon completion of the interview, Messrs. Tarpo and Murphy showed the TAT an area on site which they stated was the location of the covered waste lagoon. This was found to the northwest of the process building, at the west end of the site. A slight rise in the land was observed at this location. A tank battery was noted to occupy much of the area indicated as the old lagoon. The fire pond, located due west of the lagoon area, was then inspected. Mr. Tarpo indicated that the water level in the pond was maintained by overflow diversion into the sewer system. Mr. Tarpo also stated that no waste filling west of their pond had occurred.

Messrs. Tarpo and Murphy then toured the ACS fill and nearby area with the TAT, pointing out the location of the monitoring wells. Later, the TAT attempted to open the casing locks on these wells to obtain HNU readings. None of the locks on the wells could be opened, and the casing caps appeared to be rusted shut. As such, HNU readings could not

be taken. The TAT then traversed the E&L rail bed along the southwestern edge of the Griffith landfill. No leaching problems were encountered. A similar investigation was made along the C&O rail line north of the landfills. A drainage ditch along the rail line was found to contain clear water; no abnormal HNU readings were obtained, nor was evidence of leaching found. Another drainage ditch, running roughly parallel to the aforementioned ditch, was observed. It appeared to originate in the area between the ACS fill and the current Griffith operations and was interrupted at one point by soil which had apparenty been bulldozed into it. At this point, the water was very dark, odorous, and gas was noted emerging from the sediments. Both ditches were eventually intercepted by another ditch running perpendicular to the C&O tracks, northwest of the Griffith landfill. While not traced, it is likely that this ditch connects the marshes located north and south of the C&O tracks. At the confluence of the ditches, the water from the "on-site ditch" was noted to be clear with no discoloration or odor present.



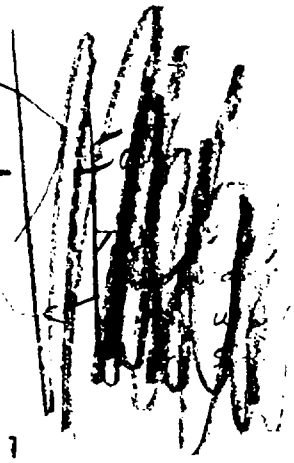
SPCC Inspection

On December 12, 1984, TAT members Michols and Matz conducted a Spill Prevention Countermeasure and Control (SPCC) inspection of the ACS facility [illegible] TAT [illegible]

Messrs. Tarpo and Murphy. Mr. Tarpo presented a copy of ACS's SPCC plan to the TAT (Appendix A). Mr. Murphy informed the TAT that the crude referred to on the SPCC plan was not crude oil but crude solvent. The SPCC plan contains a listing of the majority of chemicals held at the site, but Mr. Tarpo ~~pointed out to the TAT~~ that a more detailed description of tank storage and spill prevention exists in the Contigency Plan outlined in Part B application submitted by ACS in August of 1982. Mr. Tarpo stated that ACS does ~~not work with~~ any soluble oils. According to Mr. Tarpo, ~~the fire water pond on site~~ is equipped with a double underflow separator, ~~to prevent the discharge of oil to the sewer.~~

Messrs. Tarpo and Murphy then conducted a tour of the ACS site with the TAT. The various tank farms on site were pointed out. The facility appeared to be very well maintained. After the completion of the site tour, Messrs. Tarpo and Murphy pointed out the marsh and ~~the~~ culvert ~~that runs~~ underneath the C&O tracks, ~~to the south of the facility.~~ ~~The marsh located to the west of the facility~~ (Figure __)

The marsh appeared to be very healthy and showed no evidence of vegetative stress. ~~The culvert, which runs under the C&E railroad tracks, is located approximately 1500' west from Colfax Avenue. The water present in the culvert appeared to be flowing south from the marsh into the drainage ditch running parallel to the C&E rail tracks on the south. Another~~ drainage ditch, located on the south side of the C&E tracks, running perpendicular to the C&E rail tracks on the south, also converged at the same point as the culvert. ~~The ditch, parallel to the C&E tracks, continued~~ west along the tracks approximately 300' past the culvert intersection before terminating. Figure 3 depicts the drainage pattern.



~~The TAT then left the ACS facility.~~

RECOMMENDATIONS

~~The leachate identified by the U.S. EPA Surveillance and Analysis Division in May of 1982, was not~~ No leaching problems were evident when the TAT conducted its initial site investigation in November 1984. The possibility exists that ~~this~~ leachate ~~becomes~~ may occur evident only during the spring ~~and fall of each year, based upon the seasonal rain fall~~ due to typically greater influx of water into the soil during the season. It is recommended that another site inspection be conducted in the spring of the upcoming year to determine if ~~the~~ leachate ~~existence is, in fact, dependent on seasonal rain fall~~ problems do exist. The [illegible] in the 1960s,

Implementation of a ground water use survey ~~of~~ the ~~local~~ ground water wells within the Griffith ~~area~~ should be considered to determine potential sites for ground water contamination and to obtain an accurate listing of locations and depths of current ~~ground water~~ water supply wells. Based upon the results that are obtained from the analysis of the LCHD chemist's private well water sample, it may be necessary to implement a more extensive ground water sampling plan of local wells in order to accurately assess the area affected by ~~the~~ contaminant plume.

If you have any qeustions or need additional informaiton, please feel free to contact us.

Very truly yours,

ROY F. WESTON, INC.

Jeff Stofferahn
Project Scientist

Sally Matz
Environmental Chemist

Kurt S. Stimpson
Technical Assistance Team
Leader, Region V

JS:SM:ap

in the southern portion of the facility. In the 1960s,